

Trall (R. T.)

DISEASES

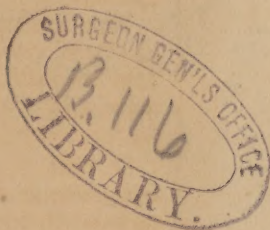
OF THE

THROAT AND LUNGS.

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BY

R. T. TRALL, M.D.



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## PUBLISHERS' PREFACE.

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THE great demand for the articles of Dr. Trall on Diseases of the Throat and Lungs, while in course of publication in THE WATER-CURE JOURNAL, has induced the publishers to re-issue them in a more convenient form for reference and circulation.

We can entertain no doubt that the author has clearly traced this very prevalent and rapidly increasing class of diseases to their true origin, and pointed out the best, and the only rational, plan of prevention or cure. The widespread distribution, therefore, of this little book can hardly fail to save thousands of valuable lives, while its teachings, if generally adopted by society, would at once arrest the fearful ravages of consumption and its kindred maladies, which now threaten, ere long, to ruin, if not exterminate, the human race.



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# DISEASES

## OF THE

# THROAT AND LUNGS.

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### PRELIMINARY REMARKS.

IN treating of the diseases of the throat and lungs, I shall comprehend all the ordinary forms of acute and chronic inflammation usually known and described under the names of *throat-ail, quinsy, croup, bronchitis, dyptheria, putrid sore-throat, canker or aptha, pneumonia, influenza*, and all forms of *consumption*.

They are all peculiarly the maladies of what is called civilization, and the scourges of fashionable society. Comparatively rare in the ruder and cruder states of society, they increase and multiply with the enervating habits and unphysiological refinements of artificial life.

Altogether, the group of diseases we are about to consider, constitutes the sources of nearly one fourth of the mortality of the country. Inflammation of the lungs alone is the cause of about one fifteenth of all the deaths; while consumption is everywhere sweeping the young and middle-aged in droves to their graves. Mortuary statistics show that the mortality from this disease embraces about one seventh of the whole amount. In New York city there are not far from three thousand deaths annually of consumption, averaging more than sixty per week, or nearly ten per day. This is a fearful picture; and the picture becomes appalling in view of the fact that it is growing worse instead of better.

It is true that the medical profession has no lack of remedies; that it professes to have in its ample *materia medica* many valuable medicines for consumption. But there is one prominent fact which seems to stamp delusion, if not deception, on their pretensions. *They never cure. They frequently kill.*

Their dispensatories, pharmacopœias, and medical journals do indeed abound with prescriptions. Physicians are always ready with the "latest fashion" of a remedy. Chemists and apothecaries are continually putting forward new specifics, which the doctors indorse and recommend as obsequi-

ously as the American milliners and mantuamakers respond to the latest Parisian fashion-plate. And no sooner is one vaunted specific or nostrum—be it digitalis, prussic-acid, sarsaparilla, cod-liver oil, inhalation, blood-food, hypophosphite, ready-resolvent, tincture of credulity, or essence of moonshine—run out, and thrown aside as useless, or worse than useless, than some other equally detestable poison or nuisance is ready to take its place in professional favor and popular experience, have a similar run, and meet a similar fate. History has, however, recorded one fact in relation to all of the consumptive nostrums of the past, as true science can infallibly predict the history of all future ones. *They never have cured a single case, and they never will.*

Nor are the irregular physicians—quacks, they are sometimes called—less diligent in driving a profitable trade in the matter of selling worthless and injurious nostrums to poor, miserable, and dying consumptives. These enterprising speculators in human gullibility very well know that this class of invalids will catch at promises as drowning persons do at straws. They are aware that they have but to concoct some flavored compound of alcohol, opium, and sugar, which will temporarily stimulate the blood and deaden the sensibilities, and then advertise, repeat, reiterate, declare, and, if need be, swear, that they have marvelously, miraculously, superhumanly, and preternaturally discovered a wonderful and infallible preventive and curative of all kinds of consumption, and of all predispositions thereto, and which never fails in any stage; or to proclaim that, by some very strange and, for the cause of suffering humanity, most opportune and lucky adventure, they have stepped into the shoes or been invested with the mantle of some Indian, “wild man of the woods,” or gypsy doctor, to enable them to rifle the pockets of the swarms of desperate and dying consumptives, as effectually as leeches and vampyres draw the life-blood of the slumbering traveler.

Bid me go where Thugs slow creep,  
Murdering men while yet they sleep  
Thus gives poison. Doth not he,  
Who for poisoning takes a fee.  
Softly curse those heathen Thugs,  
While thy race is steeped in drugs?

The newspapers all over the country are continually displaying long columns of nostrums warranted to cure consumption; and no sensible person, it seems to me, can fail to be disgusted with their self-evidently false assertions and absurd pretensions. I have known eight hundred and fifty dollars paid for a single insertion of one of these quack advertisements, filling eight or ten columns of one of our city papers. If such investments are profitable to the nostrum-venders, what immense sums of money must be paid by the credulous dupes of these cunning knaves!

And every specious pretense, every perversion of truth, every falsification of science, as well as every outrageous lie that can be made to subserve the sale of the fraudulent merchandise, is resorted to with a heartlessness that ought to bring a blush to the fire-seared face of Satan himself.



## FORMS OF CONSUMPTION.

Medical authors are neither clear nor precise as to what disease or diseases they apply the term consumption. Some authors recognize only one form of consumption proper; other authors recognize two, three, and even more.

There are, however, no less than seven distinct and prominent forms of this disease. Many physicians do not regard an affection of the lungs as really consumption, until disorganization has progressed to a fearful, if not fatal stage. But this method of diagnosis is practically useless; for, unless we can detect it in its incipient stages, we have very little chance to effect a cure.

Some writers limit the term consumption to the formation of tubercles in the lungs. Although this is the most common form of consumption, and although most forms of the disease are liable to be complicated with more or less of tuberculation, during some state or stage of its progress, this condition is by no means a uniform nor necessary accompaniment.

Consumption may be said to exist wherever the patient has the following aggregate of symptoms: Cough, pain or sense of weight in the chest, expectoration, and hectic fever. There is usually more or less emaciation, and the hectic fever may be so slight as to be unnoticed. Very frequently, in the early stages, the patient will complain of a disposition to cough frequently, with a scanty expectoration of a tenacious phlegm, a slight difficulty of breathing on sudden exertion, a sense of chilliness in the fore part of the day, and a feeling of feverishness about the face toward evening. If these symptoms are attended with general decline of health and strength, there is no time to lose. The case should be regarded and treated as consumption.

The term consumption properly applies to all forms of chronic inflammation of the lungs, attended with ulceration, tuberculation, or any kind of disorganization, and it presents the following varieties:

1. *Catarrhal*.—This is the result of frequent colds “settling on the lungs.” It is known by a violent and constant cough, and very decided paroxysms of hectic fever. There is great chilliness, sometimes, and at others the surface is hot and feverish. In this form the night-sweats are apt to be severe; the cough is severe, and the expectoration copious. The local condition of the lungs is that of an open ulcer, extending deeper and wider, in one or both lungs. As the ulceration progresses, the cough becomes deep and hollow, but the breathing is not very greatly disturbed.

2. *Tubercular*.—This form affects more particularly persons of a scrofulous diathesis. It consists in the formation of myriads of little tumors, or hardened lumps, in the substance of the lungs, generally commencing in the upper portion and extending downward. As the tumors or tubercles enlarge, they coalesce, soften, and ulcerate, and form variously shaped cavities, from which more or less purulent matter is expectorated.

The incipient stage of this form of consumption is denoted by short breath,

sense of weight or oppression in the upper part of the chest, tickling cough, slight expectoration of tenacious pus or mucus, and frequent pulse.

The nature or origin of tubercles has very much perplexed medical writers; and all the ideas advanced on the subject seem to be little more than vague hypotheses.

3. *Dyspeptic*.—By the term, dyspeptic consumption, is understood the extension of disease from the liver to the lungs; or, in other words, ulceration or tuberculation of the lungs supervening on a primary disease of the digestive organs. It is named, not in reference to any peculiar state or condition of the lungs, but in reference to the primary malady. It may take the form of catarrhal or tubercular—usually the latter—and is known by the symptoms already mentioned as pertaining to those forms.

4. *Laryngeal*.—In this variety the local inflammation fixes upon the mucous or lining membrane of the larynx (upper portion of the windpipe), constituting *chronic laryngitis*. It is usually preceded by some form of dyspepsia or liver complaint. It presents very mild symptoms in the early stage, but is really one of the most difficult forms to cure. It is characterized by an almost constant soreness in the vicinity of the projecting portion of the trachea or windpipe, a tickling cough, and peculiar roughness or hoarseness of the voice. The expectoration is often copious, and sometimes streaked with blood. This affection, and also the common “throat-ail,” is commonly, though erroneously, called *bronchitis*.

5. *Apostematous*.—This is the form of consumption in which abscesses are said to form and break in the lungs. It differs from the catarrhal form in being an abscess in the lungs instead of an ulcer. It is attended with violent paroxysms of coughing, fixed pain and soreness in the chest, and, when the abscess opens, copious expectoration. Abscesses sometimes gather, suppurate, discharge, and heal successively, for months and years.

6. *Hemorrhagic*.—Frequent attacks of *hemoptysis*, or spitting of blood, are the distinguishing features of this form of consumption. Persons of frail, lax fiber are most liable to it. Enlargement of the liver often induces hemorrhages from the lungs, which may be followed by rapid disorganization. Hemorrhagic consumption is generally complicated with tubercles in the lungs; and if these occupy any considerable portion of the lungs, the result is always fatal.

7. *Bronchial*.—This form of consumption is the *bronchitis* of medical authors. It is evinced by a diffused sense of soreness through the chest, increased on deep inspirations, and attended with frequent cough and moderate expectoration. It may be confined to one lung, but usually affects both more or less. The seat of the local inflammation is the mucous membrane of the bronchial ramifications. In its early stages, its symptoms resemble a mild influenza or a severe cold, without, however, the catarrhal complication of influenza, or of the catarrhal variety of consumption. In severe cases, and in the latter stages, there is considerable difficulty of breathing, sometimes amounting to crepitus—rattling, or wheezing, sometimes simulating a slight croup, and at other times resembling a mild paroxysm of asthma.

## OTHER AFFECTIONS OF THE THROAT AND LUNGS

The "*throat ail*," frequently termed "clergyman's sore throat," is an ulceration of the mucous membrane of the mouth and fauces, often affecting the tonsils, and frequently attended with a relaxed *uvula*. On looking into the mouth, the ulcerous specks or cavities are apparent. It is usually connected with a similar condition of the *duodenum*, or some other portion of the alimentary canal.

The *quinsy* is an acute inflammation of the tonsils—almonds of the throat. They are red, swollen, and very painful. There is great difficulty of swallowing, and in severe cases the sense of suffocation is extremely distressing. If not soon checked, the inflamed organs suppurate. This disease is always accompanied with fever.

The *croup* is an acute inflammatory affection of the mucous membrane of the trachea or windpipe, attended with the secretion of a glairy, tenacious fluid, which, in severe cases, concretes into a membranous coating, obstructing respiration, and causing death by suffocation. This concreted hardened substance when once formed is extremely difficult to expel through the narrow opening of the glottis, hence the great fatality of the disease unless checked in its early or forming stages. The croup is easily known by the shrill ringing cough, the thick, heavy, adhesive matter expectorated, and the great difficulty of breathing which attends. It is always accompanied with a fever of a low typhoid character.

*Bronchitis* in the acute form is not distinguishable from pneumonia. In the chronic form it is the *bronchial* consumption already mentioned. *Acute bronchitis*, *pleurisy*, and *pneumonia*, for all practical purposes, may be regarded as essentially the same disease.

The term *dysphtheria* has been applied to some forms of croup, but more frequently to that form of malignant scarlet fever in which the violence at the throat affects, prevents, or supersedes the ordinary rash or eruption from appearing on the skin. We shall regard it in this article as identical with the common *putrid sore throat*, and both as the malignant form of scarlatina alluded to.

*Canker* or *aptha* is another form of the "throat-ail," already mentioned. Most persons are familiar with its appearance.

*Influenza* seems to be compounded of acute catarrh and pneumonia. It is an acute inflammation of the lungs, extending to and involving the mucous membrane of the nose. It is always attended with a low typhoid fever. With the cough, soreness of the chest, difficult breathing, and more or less expectoration, there is great depression of strength, feeble pulse, great congestion of the lungs as indicated by the oppressed respiration, and copious or constant sweating.

*Pneumonia*, or inflammation of the lungs, is indicated by cough, pain in the chest, difficult breathing, and general fever. The pulse is variable, according to the form of the accompanying fever; and this may be either the inflammatory, the putrid typhus, or the nervous typhus; and the latter



forms may present all degrees of severity, from very mild to extremely malignant. When there is much blood expectoration, the disease has been called *bilious pneumonia*; when the expectoration is very copious, thin, and frothy, it has been called *peri-pneumonia notha*, or *bastard pneumonia*; when the fever has been of a low diathesis without either of these complications, it has been denominated *typhoid pneumonia*; and when attended with high fever, *simple pneumonia*. These distinctions are, however, founded on erroneous pathological notions.

### GEOGRAPHY OF CONSUMPTION IN THE UNITED STATES.

It has been a vexed question with physicians, whether diseases of the lungs are most prevalent in the warmer or in the colder latitudes of our country; and a still more perplexing question, whether the consumptive invalid has the best chance of recovery in the Northern or in the Southern States.

According to the statistical information, in relation to this subject, furnished by the census of 1850, the account is greatly in favor of the South. Thus, in Alabama, the deaths of consumption were only one in twenty-five of the whole number; while in the whole United States the ratio was one to nine. In Louisiana, the deaths of consumption were one in nineteen, while in Maine they were one in four and a half. In Massachusetts, one fifth of all the deaths were of consumption, and in South Carolina only one in thirty. Other Southern States compare with Northern ones quite as favorably for the former; for examples: Georgia, one in thirty-six, against Connecticut, one in six. Arkansas, one in twenty-three, against Vermont, one in four. North Carolina, one in eighteen, against New Hampshire, one in four and a half. Florida, one in twenty-two, against New Jersey, one in seven and a half. Texas, one in twenty-seven, against Rhode Island, nearly one in four. New Orleans, one in eleven, against New York, one in six and a half, and Boston, one in six, etc.

In estimating the precise value of these data, we must bear in mind that certain other diseases—the yellow fever particularly—are more prevalent in the Southern States, thus removing many persons who would otherwise add to the mortuary statistics of consumption. But with all due allowance on this head, the difference is greatly in favor of the South. We think, however, that the greater apparent immunity from consumption in the Southern States is not due to the higher temperature of the climate *per se*, but, indirectly, to the greater exposure of the Southern people to the free, open air, consequent on their warmer climate and sparser population. This will, perhaps, appear obvious after we have considered the causes of consumption. Nor does it follow, necessarily, as we shall hereafter show, that because consumption is less prevalent in the Southern latitudes, that consumptive invalids as a general rule, can recover better by removing to a warmer climate.

### CAUSES OF CONSUMPTION.

Whatever tends to impoverish or deteriorate the blood, depress or waste the vital energies, and obstruct the various outlets or emunctories of the



body, may be said, in a general sense, to be a predisposing cause of consumption. And this definition is broad enough to embrace the whole range of unphysiological habits. But there are many causes to be found in personal habits, social customs, dietetic influences, and in the use or abuse of stimulants, narcotics, drug-medicines, etc., which are specially predisposing to this disease.

The exciting causes—colds, fatigue, or over-exertion, etc., are of little consequence, for the reason that, without the existence of some depraved or cachectic condition of the system constituting the predisposition, they would never induce consumption.

First in the list of predisposing causes is constipation of the bowels. This is usually more or less connected with a torpid condition of the liver, because the same dietetic or other errors which occasion obstructions in the bowels, occasion, also, the same condition in the large depurating organ called the liver. When constipation of the bowels and liver exists, the kidneys and skin are compelled to perform extra duty in the work of eliminating morbid and effete materials from the system, in consequence of which they become, finally, exhausted and torpid. Then it is that the lungs have to sustain the chief burden of depuration, and the result of this is a disorganization or destruction of their tissue—consumption.

Among the more prominent causes of constipation—to go back to the origin—the remote causes of consumption—are fine flour, and the various mixed and high seasoned dishes of New England cookery, examples of which are seen in the favorite short-cakes, doughnuts, mince pies, and sweet cakes and confections too numerous to mention. One who can look on a New England table with the eye of a physiologist, need not wonder at the great and increasing prevalence of consumption. The “hog and hominy,” or the bacon, rice, and hoe-cake, of the South and West, may be as conducive to disease as are the more complicated abominations of the New England tables; but they will be more apt to induce fevers and bilious attacks than consumption, because, though equally gross, they are less constipating.

Those who can understand the rationale of convulsions in children, will easily recognize the chief predisposing circumstances which lead to consumption in the adult. In the city of New York thirty or forty children die weekly of convulsions. And the same ratio of mortality, very nearly, from the same cause, will apply to all parts of our country. These convulsions are, in almost every case, owing solely to constipation of the bowels; and the constipation of the bowels, unless inherited, is, in every instance, attributable to the improper food on which the children are fed. And thousands of children, who will not die of convulsions, are being prepared for consumption as they approach the period of maturity.

But the most common and the most prominent cause of consumption remains to be stated. *It is excessive alimentation*; or, rather, the disproportion between the aliment and respiration. *It is the excess of food taken into the stomach, over and above the quantity of air taken into the lungs.*

I am well aware that this theory is contrary to the common teachings of medical books, and the usual prescriptions of medical men. But I speak advisedly. Medical writers are constantly parading "meagre diet," "innutritious or insufficient food," as a cause of consumption. But where these are causes in one case, excessive eating and defective breathing are the causes in a thousand cases.

It is true that many consumptives do not take more food than is necessary to replenish the natural waste of the tissues. But they do not breathe sufficiently to convert what food they do eat into assimilable material. The food, after being prepared in the stomach, and acted upon by the lacteal absorbents and glands, receives its final elaboration in the lungs. The nutritive materials must all pass through the lungs, before the arteries can convey them to the capillaries to be assimilated to the tissues. The process of digestion, therefore, may be said to begin in the alimentary canal, and conclude in the lungs.

And this fact enables us to explain the rationale of the majority of cases of consumption, and also to indicate the proper and rational plans of treatment, both preventive and curative.

Eating and breathing must correspond; that is to say, no one can, in any way, nor by any means, diminish the breathing capacity and increase the quantity of food with impunity. Every morsel of food requires a corresponding particle of air, or it can never be used. Else it becomes a burden, and must be thrown out of the organism as so much lumber or waste material.

A person accustomed to breathe normally and eat normally as to quantity, can not diminish his respiration safely without, at the same time, correspondingly reducing his food; otherwise obstructions inevitably occur. If he become more sedentary in occupation, and diminish his usual amount of exercise, respiration will be less, and hence he must eat less, or obstruction and disease are certain to result. And if this habit is allowed to go on long enough, the whole blood is surcharged with improperly formed and unassimilable chyle; and this clogs up the lungs and gives rise to tubercles, ulceration, expectoration, etc., constituting consumption.

These most important considerations are wholly overlooked by the medical profession, and wholly unknown to, and unthought of, by the common people. A proper understanding of them, and a due attention to the hygienic management which they suggest, would soon relieve our country of this disease—its chiefest scourge. Indeed, medical men generally have a theory respecting the nature of this malady, so far from the truth as it is possible to get; and the practice which they recommend to prevent consumption—pork, grease, gravies, alcohol, cod-liver oil, etc.—is precisely calculated to cause tubercles in the lungs, when they do not already exist, while their "curatives" can only aggravate them and hurry the patient to the grave.

The views above suggested will, on a careful study, be found to harmonize with and explain all the problems as well as the phenomena of consumptive maladies.

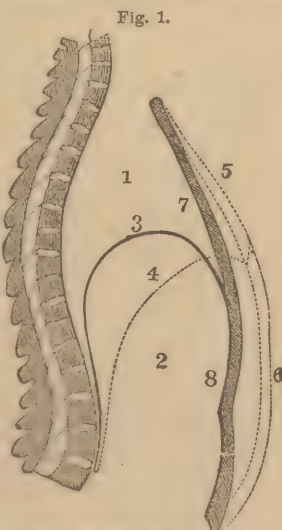
## PERSONS MOST LIABLE TO CONSUMPTION.

It is well known that females are—other circumstances being equal—more liable to consumption than males. And it is equally well known that their greater exclusion from out-door occupations, and their more sedentary habits, correspondingly diminish their respiratory functions. Sitting in rooms over-heated, especially with hot-air stoves, and sleeping in ill-ventilated apartments, are predisposing causes which affect females more than males.

It is well known, too, that the young ladies and the young gentlemen of our boarding-schools, and of the majority of our academies and colleges, are very liable to be found fatally consumptive during their course of study, or soon after graduating. Whatever causes may contribute more or less to this result, there are two causes which almost always exist, and which are of themselves sufficient to produce the disease. These are, constipating food and sedentary habits. To these may often be added, confined and unventilated bedrooms, all of which circumstances tend directly to diminish the breathing capacity of the lungs.

I need not here dwell on the horrid practice of tight lacing, which tends so directly and so powerfully to put out the breath of life, by constricting the diameter of the chest. This monstrous practice is, happily, going out of fashion, albeit one of our Allopathic medical journals has, on several occasions within a year or two, advocated the habit, as being both a preventive and a curative measure for consumption. A proposition so self-evidently absurd, so ridiculously silly,

Fig. 1 is a side view of the chest and abdomen in respiration. 1. Cavity of the chest. 2. Cavity of the abdomen. 3. Line of direction for the diaphragm when relaxed in expiration. 4. Line of direction when contracted in inspiration. 5, 6. Position of the front walls of the chest and abdomen in inspiration. 7, 8. Their position in expiration.



ACTION OF THE DIAPHRAGM.

would hardly call for serious refutation, were it not put forward, and urged and reiterated, with a show of anatomical and pathological knowledge just sufficiently plausible to deceive the ignorant and mislead the unthinking. The author of this outrageously foolish notion is not only the editor of a medical journal, but the author of a work on consumption; and however nonsensical his teachings may seem to us, and are of themselves, we are bound to regard him as earnest and honest in his opinions. It can not be possible—at least we will not believe it—that he misteaches the people intentionally, for the sake of the professional perquisites and advantages. We

treat his lucubrations on this subject with the more attention, also, because they have been extensively copied and circulated through the newspapers of the country, without note, comment, or dissent, which is equivalent to their indorsement.

The author above alluded to argues, in his periodical (*Hall's Journal of Health*), that as tuberculation usually commences in the upper portions of the lungs, where they have the least motion, by restricting the action and

preventing the expansion of the lower parts of the lungs, the breathing will be forced on the upper portions, thus securing their greater expansion, and obviating the formation of tubercles. But the author happens to be most egregiously mistaken in his premises. He errs anatomically and physiologically as well as therapeutically.

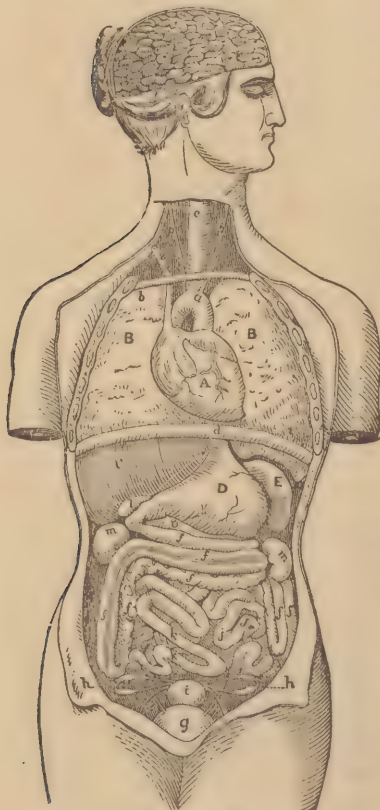
A. Heart. B, B. Lungs. C. Liver. D. Stomach. E. Spleen. *m, m.* Kidneys. *g.* Bladder. *d* is the diaphragm which forms the partition between the thorax and abdomen. Under the latter is the cardiac orifice of the stomach, and at the right extremity, or pit of the stomach, is the pyloric orifice.

The truth is, the upper parts of the lungs only act as the lower portions do, and for this reason tight lacing produces the very condition which Dr. Hall recommends it to prevent or remove.

As this is an important matter, let us make it plain by a few illustrations.

The lungs fill all of the space above the diaphragm, with the exception of a small portion in the center occupied by the heart and its blood-vessels. When the diaphragm descends, the lower

Fig. 2.



VITAL SYSTEM.

ribs are expanded laterally, and the air rushes into the lungs; but the conical shape of the thoracic cavity alone is enough to show, to the most superficial observer, that the upper portions of the lungs can have no action except in connection with the lower portions.

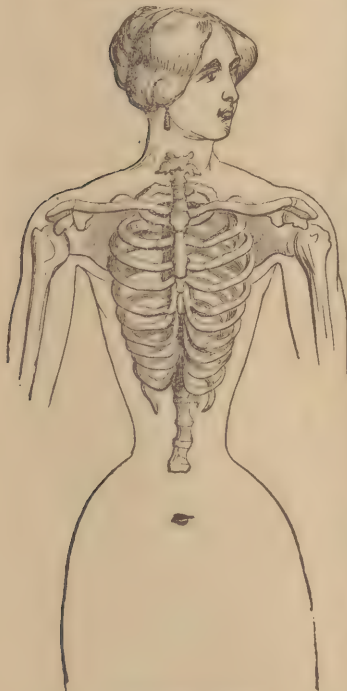


When the abdominal muscles contract, the viscera of the abdomen are forced up against the diaphragm, which relaxes and is pressed up against the lower portions of the lungs, crowding or squeezing the air out of them, and thus alternate inspiration and expiration constitute the functional process of respiration.

The relations of the lungs and heart to the abdominal viscera may be seen in fig 2.

Four years ago a lady came to my establishment, whose body, around the

Fig. 8.



CONTRACTED CHEST.

region of the stomach, had been reduced, by tight lacing, to about one third the normal size. Her figure was frightfully yet fashionably deformed; yet she was married and had one child—a feeble thing, of course. Being one of the most extreme cases I ever saw in a person who was able to stand on her feet, I employed an artist to paint an exact representation of her size, form, and figure, which now hangs in the anatomical rooms of the Hygeio-Therapeutic College.

This patient was laboring under a severe diabetes, a disease which is usually fatal under allopathic practice. Her skin was pale, cold, and extremely torpid; and the reason why the disease took the form of diabetes instead of consumption is, doubtless, attributable to the fact that she had been many years a dyspeptic, and unable to take but an exceedingly small quantity of food, so that her blood had not become loaded with the elements of unassimilable chyle and other effete matters, so frequently the cause of tubercles, not only in the lungs, but

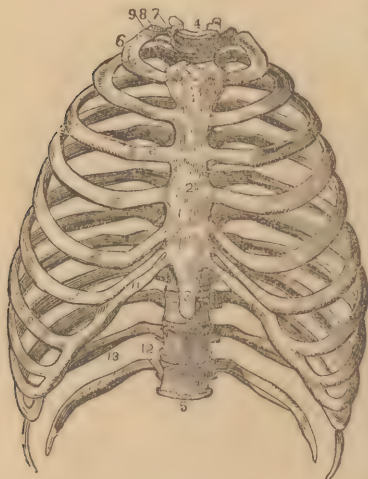
in other organs and tissues of the body. Fig. 3. is no aggravation of this patient's appearance. Indeed, it comes considerably short of the reality.

By contrasting the shape of this deformed chest with the bones of a natural thorax (fig. 4), some idea may be formed of the direful consequences of restricting, in any way, the movements of the vital organs.

Fig. 5 shows, more distinctly, the relations of the lungs to the heart and great blood-vessels. It will be perceived that the right lung is divided into three lobes, and the left into two.

“Respiration occurs in aquatic animals which do not breathe air. In them the respiratory organs are membranes prolonged externally into tufts or fringes, called *gills*, each one of which is supplied with arteries and veins,

Fig. 4.



THE THORAX.

during the circulation of blood through which aeration is effected.

An interior view of the thorax is represented in fig. 4. 1. The manubrium. 2. Body. 3. Ensiform cartilage. 4. First dorsal vertebra. 5. Last dorsal vertebra. 6. First rib. 7. Head of first rib. 8. Its neck. 9. Its tubercle. 10. Seventh rib. 11. Costal cartilages of the ribs. 12. Last two false ribs. 13. The groove along the lower border of each rib.

“In air-breathing animals the membranes or aerating surface is reflected internally, forming passages or chambers in which the air is received, and on which the capillary vessels are distributed. Insects have a series of tubes ramifying through the whole body, and carrying air to every part.

“In the human lungs the sides or walls of the air cells are formed of a thin transparent membrane, and the capillary vessels are placed between the walls of two adjacent cells, so as to be exposed to the action of the air on both sides. The number of the air cells of the whole lungs is immense. M. Rochoux has estimated them at six hundred millions.”

For further illustrations on this subject the reader is referred to the “Hydropathic Encyclopedia.”

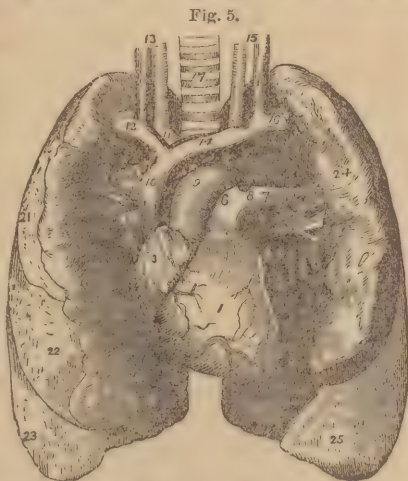
The ramifications of the windpipe, or rather of its divisions in the lungs which are called the bronchial tubes, into air cells, are represented in fig. 6.

### STAGES OF CONSUMPTION.

Medical authors usually distinguish three stages of consumption. Of course this distinction into stages is entirely arbitrary. The first stage, or commencement of the disease, may be dated from the first appearance of expectoration with the cough. A cough attended with raising of pus or mucus, unless accompanying asthma, or the result of a recent cold, should never be allowed to go without attention, as, in thousands of cases, it is the incipient stage of a malady which is incurable if not attended to at the outset, nor should a protracted cough, if attended with the least degree of expectoration, fail to excite alarm. It frequently happens that persons are in the habit of taking cold, and of having considerable cough, hoarseness, and

expectoration attend them ; but in a few days these symptoms disappear, and they are well again. But whenever a cold is unusually prolonged, and especially if there is increasing difficulty of breathing, the patient should be treated as a consumptive at once.

Fig. 5 represents the anterior aspect of the anatomy of the heart and lungs. 1. Right ventricle; the vessels to the left of the number are the middle coronary artery and veins. 2. Left ventricle. 3. Right auricle. 4. Left auricle. 5. Pulmonary artery. 6. Right pulmonary artery. 7. Left pulmonary artery. 8. Remains of the ductus arteriosus. 9. Aortic arch. 10. Superior cava. 11. Arteria innominata; in front of it is the right vena innominata. 12. Right subclavian vein; behind it is its corresponding artery. 13. Right common carotid artery and vein. 14. Left vena innominata. 15. Left carotid artery and vein. 16. Left subclavian artery and vein. 17. Trachea. 18. Right bronchus. 19. Left bronchus. 20, 20. Pulmonary veins; 19, 20, from the root of the right lung; and 7, 19, 20, the root of the left. 21. Upper lobe of right lung. 22. Its middle lobe. 23. Its inferior lobe. 24. Superior lobe of left lung. 25. Its lower lobe.



HEART AND LUNGS.

The second stage of consumption may be dated from the period when the patient is troubled with night sweats and hectic fever. These are exceedingly variable in degree and in regularity, but are present, more or less, after the disorganization in the lungs has extended to a considerable portion of their structure, so as materially to affect the respiration. In this stage

Fig. 6.



BRONCHIAL TUBE AND AIR-VESELLES.

the majority of cases are incurable.

Fig. 6 represents the bronchial tube, and its division into air cells, as much magnified. 1. A bronchial tube. 2, 2, 2. Air cells or vesicles. 3. A bronchial tube and vesicles laid open.

The third stage is marked by a striking emaciation of the whole body. The breath is short and hurried, the pulse small, weak, and frequent, the eyes piercing and glassy, and the shoulders have a prominent and projecting appearance, from the falling in of the chest and abdomen. Recoveries have known even under such desperate circumstances, but very rarely

## PROGNOSIS.

In estimating the curability of the different forms and stages of consumption, we must take into account the original vitality of the patient, his early habits of life—whether tending to impair the stamina of the constitution, or to develop vigorous and enduring organs and tissues—the diseases which he has had, and the medicines he has taken. As a general rule, consumptives are curable in the first stage, and incurable in the second. From the third stage, recoveries are extremely rare, although they do occasionally happen.

Some forms of the disease are much more readily cured than others. The *apostematous* form, other circumstances being equal, is the most easily cured of all. Next in the order of curability in the *bronchial*, and thirdly, the *catarrhal*.

The *laryngeal*, the *tubercular*, and the *dyspeptic* do not differ essentially in this respect with each other; but are all much more fatal than the preceding forms. The *hemorrhagic*, when not preceded by other chronic diseases, nor by dissipated habits, is curable in a majority of cases; but when the patient has been much reduced by bleeding, drugging, by liquor-drinking, or tobacco-using, or by debauchery or self-pollution, his chance of recovery is exceedingly small. When the symptoms of two or more varieties co-exist, the prognosis is still more unfavorable. The dyspeptic form is usually complicated with the tubercular, and frequently with both the tubercular and hemorrhagic, and sometimes with both of these and the laryngeal.

The most difficult and perplexing circumstance of all, in judging of the curability of any form of this disease, relates to the prior medication of the patient. Nine tenths at least of all the consumptives who have presented themselves for advice or treatment at my establishment, have been dosed more or less by the physicians of the drug school. Sometimes they have gone the whole round of drug-medication, beginning with allopathy, then trying successively homeopathy, eclecticism, and physio-medicalism, and finishing off with all the quack nostrums in the market.

They have been damaged precisely to the extent that they have been drugged. But what kinds of drugs they have taken they seldom know; and they never know the quantities of the different medicinal poisons they have swallowed. I have cured several cases after a number of our most eminent physicians had, on a careful stethoscopic examination, pronounced fatally tuberculated. And we have declined treating hundreds of cases because the patients had been fatally drugged before coming to us. Patients have frequently come to me from hundreds of miles distance, expecting to be cured in a few weeks. They were not at all alarmed, and their physicians had never intimated that there was the least danger in the case. But I was obliged to be candid with them, and tell them there was no hope. In some of these cases the patients were able to do a moderate day's work, and yet disorganization has progressed so far in the lungs, or the vital



powers of the system have been so wasted by drugs, that I could readily understand that the only question was, not whether the patient could recover, but how many weeks or months he could live? The following cases illustrate the point I wish to present very distinctly.

Three years ago last March, a gentleman about thirty years of age came to my establishment from California. His lungs were but slightly tuberculated; the cough was very slight—scarcely troublesome; the expectoration was not at all alarming; a very slight sense of weight in the upper portion of the chest, with moderate difficulty of breathing on active exercise, was all that he complained of, so far as the lungs were concerned. But he had had, years before, bilious fevers and other complaints, for which the physicians had salivated him severely. He had also been bled and blistered several times, and taken antimony and digitalis freely. These agents and processes had shattered his constitution, and made a complete wreck of his digestive organs. And the nutritive system being destroyed, he had nothing to build upon. I could give him very little encouragement—not that I feared anything from the disease of the lungs *per se*, but I apprehended that he had been fatally poisoned. The patient himself was destitute of hope. He had studied his case thoroughly; and had learned too late the sad lesson, that when the living organism is poisoned to a certain extent, death is inevitable. But as he was determined to make a trial for his life, I gave him the best advice I could. He remained with me till the middle of the summer, with very little change in his symptoms. Then he went into the country, and remained till winter, when he began sensibly to decline, and died in the spring following, not of consumption, for his lungs did not evince any aggravation of their morbid condition until a short time before death, but of the mercurialization which he had received.

This patient, I have reason to believe, complied with my advice in all respects to the letter, and lived as hygienically and strictly as was possible for him to do.

In contrast with the above I will mention the following: One year ago last November a gentleman about forty-five years of age came to me from Canada. His lungs were extensively ulcerated; his cough was violent; expectoration copious, with hectic fever and night sweats. His friends considered him hopelessly diseased, and the physicians of the place pronounced him to be in a "galloping consumption." Fortunately, he took none of their medicines, though strongly importuned to do so. Nor had he, in his previous sickness, taken much medicine—none, indeed, except the simples of domestic treatment. He had also the advantage of an original sound constitution, derived from healthy parents, and had never been the victim of liquor nor tobacco.

With all these favorable circumstances, notwithstanding the violence of the disease in the lungs, and the urgency of the symptoms, I judged that the chances were in his favor. He was put under a moderate course of bathing, and a very rigid dietary, and in two months returned home in good health, which he has enjoyed ever since.

## TREATMENT OF CONSUMPTION.

There are certain rules of management which apply alike to all forms and conditions of consumption, and certain rules which are specially applicable to particular cases. I will speak first of the general treatment, and then of the special.

**EXERCISE.**—The pathological condition and proximate cause of consumption being essentially obstruction in the lungs, and the disease itself being an effort of the vital powers to relieve the obstruction in the blood-vessels by the processes of deposits in the air cells and glands, suppuration, ulceration, and consequent cough and expectoration, the indication of the very first importance is to promote the action and expansion of the lungs to the greatest possible extent. This is to be accomplished by such exercises as favor the respiration without greatly fatiguing the muscular system. One golden rule is here always to be regarded. The exercises, of whatever kind, should never be so violent, nor so long continued, as greatly to disturb the breathing, nor the action of the heart. They should be frequent, varied, regular, and persevering, but never so severe as to cause *panting* of the lungs, or *palpitation, throbbing, or fluttering* of the heart's action. Within these limits they can hardly be too vigorous.

Another rule of scarcely less importance is, to commence all exercises gently, and gradually increase them, as they can be borne without the disturbances above mentioned. Consumptive invalids, anxious to make good progress, are very apt to overdo in the matter of exercise at first, by which means their muscles become lame and stiff, so that the cure is really retarded. And a third rule is worth mentioning in this place. A part of the exercises should always be taken in the open air. Calisthenic and gymnastic movements within doors are valuable—indeed, in many cases, essential; but out-door exercise in some form—walking or riding—is equally so. Feeble consumptives should be well-protected from cold by sufficient clothing, and if need be, while riding, with hot bottles or blocks to the feet, but they should never be permanently housed up.

As a general rule, also, those exercises are to be preferred which more particularly call into action the muscles of the upper extremities and trunk of the body. Pulling against weights, the Indian clubs, the dumb-bells, etc., are all serviceable. Horseback exercise for those who are not very weak in the muscles of the abdomen and lower extremities is to be highly commended. It is injurious in those cases in which the patient can not maintain the erect bodily position without great fatigue or increased difficulty of breathing. Walking on uneven ground, and even descending and ascending hill-sides and mountains, are among the very best of exercises, provided they are practiced with due caution. Many consumptives have recovered entirely by performing a long journey on foot; walking a very few miles the first day, and gradually increasing the task as the strength and respiration improved. And, no doubt, thousands of consumptives have lost their lives in consequence of the advice of their physicians, to be very particular

in avoiding all active exercise, and all exposure to cold. Active exercise and exposure to the open air in all kinds of weather have been the salvation of many consumptive invalids. A great many nostrums, and particular articles of diet or drink, and several drug medicines which actually retarded the cure, have obtained a reputation for being useful, because they were prescribed conjointly with a proper and systematic plan of out-door exercises. The exercises cured in spite of the medicine; but the chief credit was given to the medicine; and so the next patient relied mainly on the medicine, paid little attention to exercise, and died.

Sea-voyages are often beneficial by exposing the patient freely to fresh air and out-door exercise. Exposure to rough winds, rain, or snow is incomparably less injurious than confinement in an over-heated and ill-ventilated house. Even catching cold occasionally does not damage the patient so much as constant confinement in-doors.

Vocal gymnastics or voice-exercises should never be neglected by the incipient consumptive, nor by any who has the least predisposition to the disease. The reader may find a variety of instructions and examples in regard to the proper management of the voice in the "Illustrated Family Gymnasium."

Speaking, reading aloud, declamation and singing, all of which are to be so practiced as not to fatigue the lungs, nor to induce soreness in the vocal organs, will do more to overcome the predisposition and arrest the early stages of consumption than all the apothecary stuff ever invented.

## TEMPERATURE AND CLIMATE

The question whether a warm, cool, or cold climate is most conducive to the recovery of consumptives, has been much discussed in medical journals. The experience of the medical profession is very discordant on this subject. For a long time it has been the custom of physicians in our Middle and Northern States to advise their patients to go South. But as they almost invariably died, experience seemed to be against the plan. It is to be noticed, however, that, in at least nine cases out of ten, the patients were incurable before the advice to remove to a milder climate was given; so that, really, the result proves nothing for nor against the practice.

Recently, some of the medical journals have proposed, in view of the fact that confirmed consumptives do not recover by merely going to a milder latitude, sending them to the cold regions of the North. Even Quebec, and the country still north of it, has been named as worthy of a trial.

It seems to me that physicians, in recommending either a warm or a cold climate, look at the subject entirely through the spectacles of a false medical education. They seem to be looking after something specifically curative in some certain locality, as they are accustomed to regard drug-medicines as having specific virtues in certain forms of diseases. But as all virtue is in the living system, and all the curative power in the universe resides in the inherent powers of the constitution, temperature and climate, like air, exercise, food, water, etc., can only supply one of the proper mate-

rials and conditions for the uses of the living organism. And as consumption is essentially a disease of deficient respiration, it is obvious that whatever, in the matter of temperature and climate, will supply the most favorable circumstances for free respiration, must, other circumstances being equal, be the best for the consumptive invalid.

Hence we are led to the conclusion that a *pure* atmosphere is of the first importance; and as the muscular system and respiratory function are invigorated by a cool and relaxed by a very warm climate, it follows necessarily that a climate so cool as the patient can bear without actual discomfort is to be preferred. The patient requires to be much in the open air. Nothing is more dangerous to consumptives than the practice of keeping much within doors. Nor should rains, winds, nor snows prevent frequent exercise of some kind—walking, riding, calisthenics or gymnastics—in the open air.

Invalids who are so feeble as to be unable to exercise vigorously will be most unquestionably more comfortable in the mild climate of Florida, Texas, Madeira, or the Bermudas; but, unfortunately, such cases are generally incurable in any place. Those who have a slight affection of the lungs, and whose chief trouble is torpor or inaction in the digestive organs, will often, by spending a winter season in the Carolinas or Florida, and exercising most of the time in the open air, return in the spring very much rejuvenated. But then, a judicious plan of hygiene would have cured them at home.

It is of vastly more importance *what consumptives do* than *where they go* to be saved.

### CLOTHING.

The proper rule for clothing is very simple—as little as possible, provided the patient is kept comfortable. The practice of burying consumptives in flannel under-shirts and drawers I regard as very pernicious. The patient should be so dressed as to be able to face almost any weather; but when exposed to cold or storms, the extra clothing should be in *outside*, not in *under* garments. Under shirts and drawers tend to weaken the depurating powers of the skin, and thus increase the burden thrown upon the lungs.

Unequal clothing is a fruitful source of colds, coughs, and, finally, consumptions. The fashionable dresses of females and children, with light, thin stockings and shoes, almost bare arms and shoulders, and a load of clothing, painful to carry, around the chest, abdomen, and hips, can not be too strongly reprobated.

The ordinary dress of females in all civilized countries is as well calculated to restrain the free action of the limbs, contract the chest, weaken the respiratory muscles, and expose them to colds, as could well be devised. It is not to be wondered at that our fashionably-dressed American ladies are so disinclined to walking, and so prone to sedentary habits. It is impossible for them, in their present style of dress, to go out, unless the weather is particularly fair, or to walk much without great fatigue and exhaustion.

The following remarks of Florence Nightingale, in her work, “Notes on Nursing,” on the subject of female dress, are as applicable to female patients as to female nurses.



"It is, I think, alarming, peculiarly at this time, when the female ink-bottles are perpetually impressing upon us 'woman's particular worth and general missionariness,' to see that the dress of woman is daily more and more unfitting them for any 'mission' or usefulness at all. It is equally unfitted for all poetic and all domestic purposes. A man is now a more handy and far less objectionable being in a sick room than a woman. Compelled by her dress, every woman now either shuffles or waddles—only a man can cross the floor of a sick room without shaking it! What is become of woman's light step?—the firm, light, quick step we have been asking for?"

## DIET.

In no disease is a strict and strictly physiological dietary of more importance than in the complaint under consideration. But what is a physiological diet? The most absurd and injurious notions are abroad on this subject. The most eminent physicians of the allopathic school, and, indeed, of all the drug schools, recommend the vilest trash that ever entered the human stomach as especially useful, if not really medicinal, for consumptive patients. Milk, flesh, grease, gravies, pork, hog's lard, cod-liver oil, and alcohol are in the category of the preferred articles. In fact, whatever seems to be most conducive to the production of foul humors, scrofula, tubercles, measles, worms, canker, and scurvy in a well person, seems to be among the *materia alimentaria* of the medical profession for the treatment of consumption. No wonder they never cure the disease. No wonder that consumption is still, as it ever has been, the *opprobrium medicorum*.

Many cases are recorded of consumptives recovering health on resorting to long journeys, on foot, or on horseback, or in carriages; and these recoveries have taken place under the most opposite plans of diet. Some have lived almost wholly on rare beef and water; others have restricted their food mainly to stale bread or biscuit and such wild game as the field or the forest supplied; others have lived "generously," eating whatever fell in their way. Some have subsisted wholly on coarse bread and water; others, almost wholly on plain vegetables. Some have indulged their appetites freely, so far as quantity is concerned; and others have been extremely abstemious. Of course, the advocates of animal and of vegetable food alike, and the advocates of full and of spare diet, can equally prove the correctness of their views by reference to successful cases. But the intelligent physiologist and the close observer will conclude that the cures, in all of these cases, are attributable, principally, to the salutary influences of air and exercise, aided or retarded, as the particular case might have been, by the quantity or quality of the dietary which was adopted.

It often happens that a combination of several favorable influences will effect a cure, in spite of one or two adverse and opposing circumstances. And here is just where the people generally, and the medical profession particularly, are deluded in thousands of instances. Because a patient recovers, the inference is too apt to be drawn, that whatever he ate or drank must necessarily have contributed to that result.

There is but one method for ascertaining the best dietary for a consumptive, and this is a reference to physiological law. Whatever food will supply the purest tissue with the least wear and tear of the vital machinery is the best. In the application of this law to a given case, we can not consult the patient's tastes, or habits, or present feelings. These may be normal or abnormal, natural or artificial, inherited or acquired. Our standard of judgment should be nature, not morbid propensities. Adopting this criterion, the conclusion is inevitable, that a simple fruit and farinaceous diet, in quantity carefully proportioned to the exercise and respiratory capacity of the patient, affords the best and the only rational hope of consumptives, so far as nutrition is concerned.

Bread-food should be made of the pure grain and water, unsophisticated by salt, sugar, or shortenings, and unperturbed by yeast, acids, or alkalis. The only rising required is pure atmospheric air.

Milk, which is recommended and, indeed, highly extolled by the majority of medical authors on consumption, I regard as highly objectionable, as are all of its products—butter, cheese, cream, and buttermilk. Milk is recommended because it is *so natural a food*, being nearly allied in chemical constitution to the elements which compose the animal structure. This, however, is a grave mistake. No food can be more *unnatural*, as a single glance at the order and arrangement of nature, as manifested in all departments of the animal kingdom, will serve to demonstrate. Nature has provided milk for the nourishment of the young mammal, until the teeth are developed so that other food can be masticated. Then the supply is cut off. The mother is released from the duty of elaborating the food of her offspring, and they, in turn, become independent of her. To protract the period of nursing beyond the design of nature is clearly a perversion of organic law, which can never be practiced with impunity. And still worse is the result where the human being resorts to the milk of other animals. Though the milk of the cow, in chemical elements, very closely resembles that of the human being, its organic properties are very different. The microscope discloses the fact, that the blood of the human being is so different from that of any other creature that its peculiarities can be readily detected by the eye when aided by powerful magnifying glasses. Every species of animals seems to be created with radical differences in the vital arrangements of its organic molecules; otherwise the distinctions of the animal kingdom could not be maintained. They would be constantly blending. The flesh, milk, and secretions of animals devoured by other animals would necessarily tend to amalgamate, as it were, all distinctive forms of structure, so that, eventually, all the animals on the earth would become mixed breeds and monstrosities.

The human being is placed on so high a plane above all else of the animal kingdom, that its higher and better nature requires an abstinence from all the secretions of other animals. But a greater objection still to milk diet, and one which will be more readily appreciated by the general reader, is this, *The milch cow is always a diseased animal.* Her secretion of milk

after the weaning of the calf is itself abnormal. Were the animal kept in normal conditions, the secretion of milk would, in the order of nature, cease whenever the offspring no longer required it. But in order to make the lacteal organs yield milk, contrary to the rules and design of nature, they must be abnormally and constantly excited, and the product is necessarily more or less diseased. And the offspring of cows who are milked ten or eleven months in the year are deprived thereby of as wholesome food as they otherwise would have; and hence the practice of milking cows in order to feed human beings not only depraves the human being, but also deteriorates the animals themselves. What woman, whose breasts were so preternaturally and morbidly excited as to be forced to yield milk for other purposes than the nourishment of her own progeny, could supply a pure and wholesome article for her child? The idea is preposterous. Yet it is not more absurd than is the practice of deriving that supply from animals which are kept in a morbid condition for the very purposes of affording it.

#### DRINK.

I have but little to say on this subject. The indiscriminate practice of drinking by routine a large quantity of water by consumptives of all classes, and under all circumstances, can not be too severely reprehended. Thirst is the grand and the almost infallible rule. Those who use proper food have very little sensation of thirst, and hence require but little drink; while those who use salt and other seasonings have greater thirst, and require a larger quantity of water. As a general rule, a tumbler, or part of a tumbler, of water should be taken soon after rising, or after the morning bath or ablution; and at all other times the patient may drink according to thirst.

#### BATHING.

There has been altogether too much routinism, on the part of many Water-Cure practitioners, in the administration of baths to consumptive invalids. Some have followed the "*cold-water plan*" literally, while others have gone to the opposite extreme and prescribed, as the leading measures of treatment, hot water, vapor, and steam. All are useful in certain cases, and either will be injurious if not adapted to the circumstances of the case in hand. As a general rule, no application of water, cold or hot, and no method of applying water externally, should be resorted to which has a tendency greatly to disturb the respiration or circulation. When the temperature is low, and the lungs much obstructed by tubercles, and when their substance is much disorganized by abscesses or ulceration, no bath should be employed which induces much of a shock. Packs, douches, and plunges are here inadmissible. But in the incipient stages they are, each and all, among the most efficient curative agencies.

The sponge-bath or tepid ablution in the morning on rising, the tepid half-bath in the forenoon, and the tepid sitz-bath in the afternoon, are well adapted to the great majority of cases. When, however, the patient is inclined to be chilly at the bath hour assigned, the bath should be omitted.

The temperature of all of these baths should be pleasantly cool, but never so cold as to excite prolonged chilliness. Whenever the feet are inclined to be cold in the evening, or the head hot, the hot and cold foot-bath should be employed at bedtime. The wet girdle or chest-wrapper, in the early stages, should be worn constantly until a critical effort or rash appears on the surface, after which it should be worn only during the day. It should always be so covered as to protect the clothing from dampness; and whenever the application creates unpleasant chilliness, it should be omitted altogether. The wet-girdle is preferable in the dyspeptic and tubercular forms, in which cases the liver and digestive organs are particularly involved, and the chest-wrapper is to be preferred in the catarrhal, apostematous, laryngeal, hemorrhagic, and bronchial varieties. In the laryngeal form a wet cloth, covered with a dry one, should be kept around the throat every night, and when there is considerable and constant soreness of the part, during the day also.

In the apostematous, catarrhal, and bronchial varieties, water may be much more freely used, and of a cooler temperature than in the other forms. The majority of these patients will be benefited by the wet-sheet pack daily, followed by the dripping sheet or tepid half bath. These cases approximate *pneumonitis*—inflammation of the lungs—in pathological character, and may be treated, especially in their early stages, nearly on the same plan. One rule, however, in relation to the temperature of the baths, should be always kept in mind as applicable alike to all forms, states, and stages of consumption. It is this: the temperature of the water employed must be adapted to the patient's ability to exercise. If he is able to take active exercise in the open air so as to secure favorable reaction, the water externally applied may be much colder than when he is unable to exercise much except in the passive way. Many errors have been committed in the management of consumptive invalids from ignorance of or inattention to this simple and obvious rule of practice.

For the cough, expectoration, hectic fever, night-sweats, diarrhea, etc., we have no special measures to propose. If the constitutional condition is properly cared for, these symptoms will be mitigated, so far as possible or proper.

We regard the practice of stopping the cough by opiates and other narcotics, promoting the expectoration by nauseants, reducing the heat of the fever by antiphlogistics, checking the night-sweats by tonics, and restraining the diarrhea by astringents, as is the usual custom of all drug schools, as exceedingly pernicious—as so many ways of hurrying the patient out of the world. And, indeed, the whole plan of treating local symptoms instead of constitutional conditions, is wrong in principle and disastrous in practice.

Nor can I refrain from animadverting, in this place, against the horrid practice of blistering the chest in consumptive cases. This practice is almost universal with Allopathic physicians. I am unable to understand how the *counter-irritation* of them, as the phrase is, can do any good, while I can see many and weighty reasons why their effects must neces-



sarily be very mischievous. The chief difficulty in the lungs is obstruction, and their great need is expansion—exercise. The respiratory muscles should have the freest possible play at all times, to facilitate circulation through the pulmonary tissues, and obviate accumulation and over-distension. Blisters, by inflaming the surface and muscles of the chest, render the expansive efforts of the lungs painful; hence, the patient inclines to breathe as little as possible; and a succession of blisters never fails to aggravate very greatly the dangers of the disease.

After all, consumption is a disease to be prevented rather than cured. The best measures judiciously applied will sometimes fail. With some persons the development of the disease is the sure harbinger of death. Fortunately, however, the means which are best calculated to arrest the progress of the disease are the most efficient preventives. A reasonable attention to hygiene will insure almost any person against all danger of ever falling a victim to this, the prevailing malady of our country.

It may not be amiss to advert briefly, in this place, to the recent popular nostrums which are flooding the markets as specifics for consumption—the hypophosphites of lime, soda, and magnesia, the preparations of iron, and of cod-liver oil, and other “blood-foods.” It would seem that the hundred-and-one remedies which are constantly before the public as infallible remedies, and the hundreds of vaunted specifics which have occupied so large a space in the advertising department of the newspaper press during the last quarter of a century, connected with the fact that the disease is constantly increasing in fatality—its victims increasing in a greater ratio than the advance of population—ought to convince all reflecting minds that the whole business of manufacturing and selling remedies for consumption, is now, and has been from the beginning, and will be so long as it will pay, a fraud and a cheat.

All of these nostrums are put forward by their shrewd fabricators on some whim, prejudice, or false notion of the popular mind. But some of them are exceedingly specious in their representations and pretensions. This is particularly the case with the “blood-food” nostrums. It is claimed for them that they supply some element—phosphorous, iron, etc.—which the living organism needs for the healthy performance of its functions. Their use is predicated on the ground that they are really *fertilizers*, the same as manure is to plants, or inorganic elements to vegetables.

A correct physiology will dissipate all such notions in a moment. Animals do not and can not get nutrient materials from inorganic elements. They must subsist wholly on the proximate elements of organized matter. No matter to what extent phosphorous, lime, iron, soda, etc., are deficient, the living organism can not obtain anything it needs or can use from the administration of these substances in their elementary state. As phosphorous, iron, alkalies, earth, etc., they are poisons, and nothing but poisons, and as such will be rebelled against and rejected by the vital machinery. For this reason they are called medicines. As they exist in the proximate principles of grains, fruits, vegetables, or in animal matters,

they may be nutritious and usable. But as they exist in their inorganic or elementary state, they are drugs, medicines, poisons, and nothing else. A very simple experiment will enable every rational mortal to settle this question for himself. Let him eat a meal of phosphorous, iron, soda, lime, potash, magnesia, salt, etc., and compare the result with a meal of real blood-food—potatoes, bread, apples, etc.

#### “THROAT-AIL.”

This affection is frequently denominated “*Clergymen’s sore throat*,” from the circumstance that clergymen are frequently affected with it; but, like consumption, it seems to be increasing among nearly all classes of our people. It is invariably connected with a morbid condition of the digestive organs, more particularly involving the liver. This complaint is often confounded with *laryngitis*, and both are very frequently, yet very improperly, called *bronchitis*. The locality of all these affections ought readily to distinguish them from each other. Throat-ail, a form of which is called *canker*, or *aptha*, has its primary seat in the mucous membrane of the mouth and throat; laryngitis is confined to the upper part of the windpipe, and bronchitis affects the ramifications of the windpipe in the substance of the lungs. The chronic forms of laryngitis and bronchitis have already been treated of as varieties of consumption. In their acute form they require, substantially, the same treatment, as will be mentioned when I come to consider inflammation of the lungs, with the single exception of cold wet cloths constantly applied to the throat, and frequently changed, so long as any preternatural heat remains.

Throat-ail proper must in all cases be regarded as the result of a dyspeptic stomach or diseased liver; hence the appropriate treatment consists in such measures as will cure the primary malady; and here the dietary becomes the leading remedial appliance. Plain food, simply prepared, without seasonings, or shortenings, or risings, and abstemious in quantity constitute the essentials of the curative plan. Occasional sips of cold water gargles of cool or cold water, and the wet-girdle around the abdomen, over the region of the liver, are among the measures which may be used with advantage.

#### QUINSY.

The quinsy is a febrile disease; it is always attended with a constitutional febrile disturbance of greater or less severity. When the fever is high, denoted by a dry skin, white tongue, strong pulse, and a uniform and preternatural heat over the whole surface, the wet-sheet pack should be employed daily so long as these symptoms continue. In severe cases it may be repeated twice or thrice daily. In the milder cases, and in the low forms of fever, occasional ablutions with tepid water are preferable. The bowels should always be freed at once with enemata of tepid water, and the throat should be constantly enveloped with cloths wet in the coldest water, and renewed so often as they become warm or dry.

## CROUP.

The *croup* is an inflammatory affection of the mucous membrane of the *trachea*, or windpipe. It is usually seated a little way below the larynx, but may extend the whole length of the trachea, from the larynx to the bronchial ramifications, and even into them. The danger is proportioned to the amount of surface involved.

The peculiarity of croupal inflammation consists in the formation of a secretion on the surface of the mucous membrane, of a tenacious and adhesive character, and of a very dense consistence, which dries or hardens, and is then cast off. It is then with difficulty expelled through the *glottis*, or opening of the windpipe, and when not expelled, the patient dies of suffocation.

In some cases this preternatural membrane is not fully formed, the secretion being arrested in its earlier stage. The disease is then denominated *false croup*. But when the secretion becomes so hardened as to be cast off from the mucous membrane in membrane-like fragments or patches, it is called *true* or *membranous croup*.

The treatment must be prompt and thorough. The safety of the patient consists in arresting the secretion so soon as possible. Napkins or towels wet in the coldest water should be kept constantly around the throat and over the upper front part of the chest until the breathing becomes entirely free. The fever which attends is always of the typhoid character, and often very low, and sometimes malignant, and in managing it regard must be had to these circumstances.

The temperature of the surface is the guide for the regulation of the bathing appliances. As in all febrile diseases, when the whole surface is dry and hot, the wet-sheet pack should be employed. If the external temperature is low and unequal, the warm-bath is proper. In the intermediate states of feverish disturbance the tepid half-bath or tepid ablutions are to be resorted to. The bowels should be moved freely by means of enemata of tepid water; and when the difficulty of breathing, from the presence of tenacious phlegm, is extreme, expectoration may be promoted by the drinking of warm water, so as to nauseate the stomach. In very bad cases it may be necessary to irritate the throat with a feather, or with the finger, so as to excite vomiting.

## DIPHTHERIA.

During the last year or two this disease has appeared in various parts of the United States. In some places nearly all the cases have been fatal. Medical men are not agreed as to its nature. Some regard it as a form of croup; others as a variety of malignant scarlet fever, and others as a new and distinct disease. I am of opinion it is nothing more nor less than a modification of *scarlatina maligna*, in which the febrile effort is determined imperfectly to the skin, and partially also to the mucous membrane of the mouth and throat, often involving to some extent the upper part of the

windpipe. In this latter case the symptoms will somewhat resemble those of croup. Though children are most commonly the subjects of it—as is the case with croup and scarlet-fever—it sometimes affects adults. It is certain that many cases of well-developed scarlet-fever are attended with what is called the “*diphtheritic throat*,” which goes to prove that diphtheria is really a form of this disease, the peculiarity of which consists in a deposit of layers of lymph in the early stage, concreting into a membranous covering, analogous to that of true croup, and which runs rapidly into gangrene. It is attended, of course, with low fever and extreme depression of the vital powers. In many cases the patient dies in one or two days.

In *Braithwaite's Retrospect* for January, 1860, a well-marked and severe case of diphtheria is thus described :

“The patient is suddenly (and generally in the morning) seized with violent vomiting of a thin, yellowish-white matter, of a very offensive character; then purging of a fluid of similar appearance and smell. These dejections last an hour or so, and are followed by great prostration and stupor. The patient lies for a period varying from six to sixteen hours in a heavy sleep, from which he is with difficulty aroused, and then only to sleep again. The skin is hot; pulse 100 or more; the tongue of a bright red; drink is taken with avidity, if offered, but only to be immediately returned. And now the important question is put, ‘Is the throat sore?’ The answer is *always* the same—‘Not in the least.’ The reply, to a physician inexperienced in the horrible malady, may be fatal to the patient. The diagnosis is that this is not a case of diphtheria. On the other hand, the experienced man *expects* this reply; he forthwith carefully examines the throat, and then he *sees* the disease. In this early stage the tonsils, the soft palate, and the back of the pharynx present a bright shining red appearance. The small vessels are not seen individually injected, as in many forms of sore-throat, but the appearance is as though the parts had been brightly painted and then varnished. Hanging from the velum to the tongue is seen, in this stage, a transparent film of a tenacious fluid, which is burst by expiration, sending its particles over the mouth, and the instrument used to depress the tongue. The next moment a similar curtain is formed. After a period varying from six to sixteen hours the condition of the patient materially changes. The stupor has passed off, and delirium, often of a violent character, takes its place; there are the usual symptoms of cerebral excitement, and the fever runs high; breathing is quickened; the voice is changed to a thick, yet shrill tone; there is a short, dry cough (in children, evidences of coming croup); the neck is puffy and blushed; the tongue is coated with a white fur, and all those parts hitherto so brilliantly red are thickly spotted with a whitish substance, which, in a wonderfully short period, conglomerates, and forms one thick, plastic deposit, which in time may cover the whole palate to the teeth, so that the appearance, on opening the mouth, is as though it were lined with plaster of Paris. The violent delirium then subsides; the powers of life fail rapidly; the horrible sensations of choking and suffocation come on; the sufferer tears at



his neck with his nails and tries to open his mouth, yet full power of swallowing still continues, and he greedily gulps anything given him in the shape of drink; large livid spots form on the extremities, amounting sometimes to purpura; the diarrhea of a white and offensive matter is incessant; muttering delirium comes on, and in a tetanic convulsion death closes the scene."

Though the above is a faithful and accurate description of the symptoms as they are usually presented in the worst forms of the disease, yet there are some cases—very severe ones, too—in which some of them will be absent. I have known severe cases wholly unattended with delirium, vomiting, or diarrhea. Nor is the attending fever in any case "high," in the proper sense of that term. It may be violent, but is always of the low, atonic, or typhoid diathesis.

In some cases a diphtheritic affection of the throat succeeds an ordinary attack of scarlet-fever, from which circumstance some authors infer that the diseases are necessarily distinct. I do not think the conclusion follows from the premises. I should rather infer that, for some reason—probably injudicious or mal-treatment—the scarlet-fever did not succeed in eliminating from the system all the offending impurities—all the *materies morbi*—through the cutaneous emunctory, and so nature makes an effort to expel the remainder through the mucous membrane of the throat.

Medical authors are not at all agreed as to the best or proper mode of treating this affection. The measures and the remedies which some practitioners recommend as useful, and even essential, others of equal experience condemn as useless, and even pernicious, and *vice versa*; from which the conclusion is legitimate and undoubtedly correct, that recoveries, when they do occur, take place *in spite* of the drug-medicines employed, rather than with their assistance.

So far as Hygienic medication has been tried in this disease, its incomparable superiority over all the drug systems has been fully sustained. Of several cases subjected to the water-treatment, to the exclusion of all drugs, which have come under the cognizance of Hydropathic physicians, all have recovered. This result seems to confirm the opinion I have often had occasion to express, viz.: that there is scarcely any form of acute febrile or inflammatory disease known to physicians which is not curable, provided the efforts of nature are judiciously aided by water, air, temperature, and general regimen, and not interfered with by the administration of poisonous drugs.

Among the drug-remedies which are most frequently prescribed by Allopathic physicians are calomel, chlorate of potash, chlorate of lime or soda, common salt, sesqui-chloride of iron, sulphate of zinc, antimony, caustic applications of nitrate of silver, with various tonics and stimulants, as quinine, wine, porter, beef tea, etc.

The proper and the only rational plan of medication consists in local and general bathing, regulated precisely and at all times by the local distress and superficial temperature of the patient, and a due regard to pure air and

proper ventilation. The patient is not inclined to take, and does not require food of any kind until the severity of the local inflammation and the violence of the fever have materially abated. The practice of continually stuffing the patient on stimulating slop-food, or on food of any kind, because he is weak and prostrated, is a most pernicious one, and is enough of itself to cause a fatal termination in many cases. In these low diatheses and malignant forms of disease all the powers of the constitution are struggling with all their energies to throw out the morbid matter. If they succeed, the patient will recover; but if this effort is unsuccessful, the patient must die. He has no ability, until this struggle is decided, to digest food; and to cram his stomach with it, or to irritate the digestive organs with tonics and stimulants, is merely adding fuel to the fire; it is adding another to the great burden the vital powers are obliged to sustain, and thus lessening the chances for nature to effect a cure.

Cold wet cloths, well covered with dry ones, should be applied to the throat, as in cases of quinsy and croup; frequent sips of cool water may be taken, sufficiently to allay the painful sensations of thirst; the bowels should be freed by copious enemas of tepid water; the feet, if inclined to be cold, must be kept warm and comfortable by warm flannels or bottles of hot water; when the head is hot, painful, or the brain inclined to delirium, a cold cloth should be applied to the forehead and crown of the head, and the whole surface should be sponged with tepid or moderately cold water so often as the surface becomes very warm. When the whole surface is very dry and hot, the wet-sheet pack is the most appropriate. In the later stage of the disease, when the heat on the surface inclines to be irregular and the extremities to become cold, the warm bath, if practicable, is the best appliance. Under this management the patient will, in most cases, be fairly convalescent within one week from the attack. Occasionally, however, the disease will continue till nearly or quite the end of the second week. In a very severe case which was treated at our Hygienic Institute, 15 Laight Street, New York (reported in the *WATER-CURE JOURNAL* for May, 1860), the patient remained in a critical state from the sixth to the ninth day (and much of this time was thought by his friends to be dying); but on the ninth day the breathing became easier, the frequency of the pulse abated, and the patient was fairly convalescent. I have no manner of doubt that, in this case, had the patient taken any one of the many drug poisons which are administered for this disease by the drug-doctors, it would have turned the scale in favor of death.

### INFLUENZA.

This is not, in a strict sense, a disease of the throat and lungs, but a fever, with a disproportionate local affection. Influenza is the connecting link between catarrh and *pneumonitis*, and embodies many of the characteristics of each. There is a local inflammation of the mucous membrane which lines the nostrils and windpipe, with extreme congestion of the lungs. It differs from what is technically and properly called *pneumonia*, or inflama-

mation of the lungs, in the catarrhal complication, and from pure, simple catarrh, in the pulmonic complication, while the accompanying fever (not symptomatic or secondary, as medical books have it), places it clearly among the visceral inflammations. Some nosologists class it among the fluxes—the *profluvia* of Good—on account of the profuse sweating which usually attends. Its peculiar and characteristic symptoms are: great prostration, free or profuse perspiration, and extreme congestion of the lungs. The congestion of the lungs is greatly disproportionate to the inflammation, indicated by the slight pain and moderate heat in and about the chest, while the sense of oppression and the difficulty of breathing are severe, and frequently very alarming.

These prominent symptoms prove the inflammation as well as the fever to be of a very low or atonic diathesis, which fact should preclude, under the drug dispensation, all ideas of bleeding, reducing antiphlogistics, etc. Yet such is the medical practice of the drug doctors.

Influenza is not *per se* a dangerous disease, yet the proportion of deaths of it is quite large. I can not, therefore, reconcile these two facts on any other hypothesis than that the usual medication, so far from helping the patients to live, assists them to die. I have never known nor heard of a death where the patient was treated hydropathically.

The influenza has many times prevailed epidemically in Europe and in America. In some instances it has swept rapidly over several states and nations. Indeed, it has been the most wide-spread pestilence ever known, though the rate of mortality attending it has been small, as compared with the plague or the cholera.

The peculiar causes of this distemper, and especially those which occasion its epidemic character, have much exercised the minds of medical men, without enabling them to arrive at any very satisfactory conclusion. To show the loose and incoherent manner in which medical men reason on this and on similar subjects, I can not do less than quote a paragraph from the *Hydropathic Encyclopedia*, Vol. 3d, page 151: “Influenza, like Asiatic cholera, is usually epidemic, and has prevailed at all seasons of the year in every state of the barometer and thermometer. Dr. Good very cautiously imputes its specific cause to ‘some atmospheric intemperaments.’ Dr. Weber has suspected negative electricity of the mischief; but none of the modern theories are any improvement on that of Hippocrates, which was, ‘providential interposition;’ nor the very modest suggestion of Sydenham, who was rather disposed to ascribe it to some occult and inexplicable changes wrought in the bowels of the earth itself, by which the atmosphere becomes contaminated with *certain* effluvia, which predisposes the bodies of men to some form or other of disease.”

Medical men have always been altogether too prone to look toward “the bowels of the earth,” instead of into the condition of the bowels of men, to discover the causes of disease. They have studied atmospheric intemperaments, climatic influences, vicissitudes of temperature, electrical states, prevailing winds, fogs, mists, tempests, tornadoes, thunder and lightning,

much more than they have the habits of men with the view of elucidating the causes of contagious, epidemic, and other diseases; and having pursued their investigations in the wrong direction, it is not at all strange that they have discovered nothing.

If medical men, and boards of health, and sanitary associations would turn their attention in the direction of human habits and modes of life, they could hardly fail to see in the markets, slaughter-houses, cow-stables, piggeries, cess-pools, distilleries, breweries, bakeries, graveyards, manure heaps, decaying offal, and last, though not least, battle-fields, sources of infection and contagions amply sufficient to account for all the pestilences which have ever scourged society, and for all the diseases which have been known among men. They would understand, too, that, with very few exceptions, they were factitious and unnecessary—that they have been artificially induced.

The careless observer may not be able to trace any connection between the slaughter of a few thousand men, horses, and cattle, many of whose carcasses are left to decompose and putrefy on the battle-field, and a pestilence that prevails epidemically or endemically some time afterward; but the intelligent physiologist can expect nothing else. Very few of the residents of cities seem to have the remotest idea that the effluvia of their markets, stables, slaughter-houses, and cess-pools, and the tobacco stench of the whole atmosphere, are prolific sources of the small-pox, measles, whooping-cough, scarlatina, typhus and other putrid fevers, which are so prevalent, so contagious, and so fatal. And the farmer, whose comfortable mansion has a pretty flower-garden in front, a large cattle-yard on one side, a horrible hog-sty on the other, and a constantly accumulating reservoir of garbage and excrement in the rear, may not suspect that there is any necessary connection between these sources of impurities and the “pernicious fever,” the “malignant dysentery,” the “terrible diphtheria,” or the “putrid sore throat” that occasionally takes off a member of his family; and it may never enter into his imagination that the chronic canker in the mouth, erysipelas in the blood, scrofula in the glands, fever sores in the bones, granulations in the eyes, and humors in the skin are the legitimate and necessary result of the miasms with which he has surrounded his domicil. Nature, however, is an inexorable teacher, and makes no allowance in punishing the misdeeds of man for his ignorance. If he eats, or drinks, or breathes contagion, the consequence—disease—will follow, whether he is cognizant or ignorant of the relations of poison to the vital organism, and whether the poison be an accidental possession or the product of his own misdirected industry.

Recognizing influenza as a low fever with a slight inflammation and severe congestion of the lungs, the plan of treatment is obvious: the bowels should be freely moved by means of an enema of tepid water; a wet cloth, covered with a dry one, should be kept constantly applied to the chest; a cold wet cloth should be applied to the head; the feet should be kept warm by means of hot bottles, if there is the least tendency to coldness of the ex-



tremities; and the whole surface should be sponged occasionally with tepid water—just cool enough to be agreeable to the patient. The frequency of the ablution is to be determined by the degree of external heat, whether once, twice, or oftener in the twenty-four hours. Water may be drank according to thirst, and all food should be prohibited until the respiration has become comparatively free. In some cases the preternatural heat of the surface is so great as to render the wet-sheet pack the best appliance.

### PNEUMONIA.

Inflammation of the lungs — *pneumonia* — *pneumonitis* — is a very prevalent and very fatal disease in nearly all parts of our country; it is also one of those diseases which are on the increase among us; and there is no disease in which the *deadly* virtues of the healing art, as exhibited in the popular system of drug-medication, are more prominent and apparent. Intrinsically, this disease is not at all dangerous. Left to itself, with no medication of any kind, probably not one case in twenty would terminate fatally. And we have not yet known a single instance of death under hydropathic treatment, although the experience of the physicians of our school has been extensive. I have myself treated many hundreds of cases, in young and old, strong and feeble, without losing any.

Inflammation of the lungs appears under three distinct forms. In one form the fever is of the inflammatory character; another form is attended with the putrid form of typhus fever; and the third with the nervous form of typhus fever. The first-named variety is usually denominated, simply, *pneumonitis*; the second form has been called “bilious pneumonia,” while the third form has been termed “*peripneumonia notha*,” or “bastard pneumonia.” The term “typhoid pneumonia” has been applied to all forms except the first named.

The source of error and confusion with medical authors and medical books consists in regarding the fever which attends inflammation of the lungs as secondary or symptomatic—as the consequence or effect of the local inflammation—whereas it is, in truth, the accompaniment. It is a part of the primary disease, and may partake of all the qualities of the various phases of inflammatory and of typhoid fevers, when these exist as simple fevers—that is to say, without local inflammation.

Nothing can exceed the absurd and contradictory notions which are continually being put forward in all the medical journals of the drug-schools on the subject of *typhoid pneumonia*. The leading Allopathic journals, particularly *Braithwaite's Retrospect*, the *Boston Medical and Surgical Journal*, and the *New Orleans Medical and Surgical Journal*, are prolific of essays on the subject. The great difficulty, however, with them consists in reconciling the local with the constitutional affection—the inflammatory state of the lungs with the typhoid condition of the system. And this involves them in the awkward practical dilemma of “indications and contra indications;” that is to say, the lungs requiring depletion, while the general system calls for stimulation, and *vice versa*. If they bleed for

the benefit of the lungs, the debility of the general system is aggravated; and if they stimulate for the benefit of the general system, the local disease is aggravated. They are always in a dilemma—always between Scylla and Charybdis; or, in more homely phrase, between the frying-pan and the fire. And so they usually compromise the matter by combining a little of both—bleeding, salts, and antimony, with quinine, opium, and brandy, or by substituting the mercurial plan. But it happens that each and all of these plans are a hundred-fold more damaging to the constitution than the disease is when left entirely to itself.

Some years since, Dr. Ames, of Montgomery, Alabama, communicated an article to the *New Orleans Medical and Surgical Journal*, in which he clearly proved, by facts, figures, arguments, and *post-mortem* examinations, that the ordinary method of treating inflammation of the lungs, by bleeding, opium, antimony, and mercury, so far from helping the patients to live, only assisted them to die. He showed, conclusively, that the debility and the drug diseases, which the treatment induced, were far worse for the patient than the original disease, and that in all cases they aggravated and prolonged the disease. And more: that when the patients did recover, in spite of the medication, they had a long and lingering convalescence, with frequent relapses and various sequelæ of chronic diseases, which never occurred with those who were not thus medicated. But although these facts, and many similar testimonials from other physicians of the regular schools have been before the profession for many years, the general plan of practice is scarcely altered at all. It is still bleed, blister, mercurialize, and antimonialize, as it was in the dark ages of medical science.

Two or three English physicians, who have written books on Hydropathy, have gravely told their readers that pneumonia is one of the diseases to which Water-Cure will not apply; and it is very common for the physicians of the drug schools, when discussing the relative merits of our respective systems, to bring forward this disease as a “knock-down argument.” “What,” say they, “would you dare to apply cold water to a man’s chest when he was laboring under inflammation of the lungs? Why, it would drive the disease in upon the vitals, and kill him sure!”

We have to say of the English authors alluded to, that either they had never had any experience in treating pneumonia hydropathically, or that they were totally ignorant of the first principles of our system. There is no disease that can be named in which I would sooner test Hydropathy *vs.* Drugopathy than in this very pneumonia, taking it in all its forms, states, stages, and complications. And as to the objection of driving the disease in upon the vitals, the thing is utterly impossible, for the reason that it is there already. The only question to discuss is, what is the best method of getting it out—of driving it to the surface? And for this purpose, judicious water-treatment is not only incomparably the best, but well-nigh infallible.

But judicious treatment does not consist in a promiscuous application of cold water, nor in a mechanical routine of bathing processes. To be successful in managing its various forms, the practitioner must ever keep in

view the leading features of the remedial effort, and adapt his prescriptions accordingly. The leading indication always is, to balance the circulation and so diffuse the remedial action over and throughout the entire range of the depurating functions so much and so equally as possible. The temperature of the body must be the guide of the physician. When attended with fever of the *entonic* or inflammatory diathesis, the whole surface will be uniformly hot and florid, with general dryness of the whole surface, and a vigorous, strong pulse. In this case we have little to do except to cool the system—to reduce the external heat to the normal standard, and for this purpose the wet-sheet pack, repeated so often as the heat rises much above the normal standard, with the constant application of the chest-wrapper, or a wet towel over the chest, are the processes to be preferred. Frequent ablutions of tepid, cool, or cold water will accomplish the same object, but not so promptly. The bowels should be freed with enemata of tepid water, and the patient allowed to drink cold water so freely as the thirst demands. No food should be taken until the violence of the fever has abated, or until the crisis or turn of the fever.

In the typhoid forms of pneumonia, which are attended with low fever of either the putrid or nervous form, there is less external heat, with a great tendency to congestion of the internal organs. There may be cold extremities, partial sweats, extreme headache, delirium, excessive nausea, difficult expectoration, very laborious breathing, etc., which special symptoms require specialties of treatment.

For the cold extremities, bottles of warm water should be applied to the feet; partial sweats require tepid sponging, followed by gentle rubbing with dry soft flannel; headache and delirium may be relieved by cold wet cloths to the head, frequently repeated, or the application of ice; when nausea exists, the patient should drink warm water freely until relieved; and if there is a burning sensation in the stomach or lungs, he may take frequent sips of ice-water, or swallow bits of ice; when the expectoration or respiration is very difficult or painful, fomentations should be applied to the chest for a few minutes, followed by the wet towel well covered with dry flannel. In cases of very low fever, indicated by extreme grossness of the system, or very great debility, the wet-sheet pack should not be employed, but the surface may be sponged over with tepid water so often as the heat becomes disagreeable.

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